

High energy X-ray applications: PDF and in-operando studies with EIGER2 R 500K detector

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Laboratory-scale diffraction and scattering experiments involving transmission geometries can benefit from hard radiation types (e.g., Mo and Ag), particularly when handling highly absorbing materials. In such studies, it is important to consider the efficiency of the whole experiment, including the angular coverage of the detector and minimization of background. Large area detectors, such as the EIGER2, can enable rapid data collection for probing structural changes during charge/discharge experiments or provide exceptional signal-to-noise for analysis of amorphous materials.

In this poster, we highlight common instrument geometries for two distinct applications: pair distribution function (PDF) analysis and *in operando* characterization of battery cells. Relevant experiment design details will be discussed along with strategies for data processing and refinement.